

Appl. No. 09/703,419
Amdt. Dated August 11, 2005
Reply to Office Action of July 14, 2005

US 000287

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously presented): A method for automatically framing and tracking an
5 object of interest using a video camera integrated into a hand-held processing devices
including PDAs, mobile telephones, palmtops, and portable computers to insure stability
of the image content as a user manipulates the device, the method comprising the
steps of:

providing said video camera with a wide field of view;
10 continuously detecting relative movement between the hand-held device and the
object of interest within a displayed image generated by said camera; and
continuously electronically adjusting the camera, without use of a motor, in
response to the detected relative movement, so as to maintain a desired framing and
tracking of the object of interest within an image and/or successive images, as long as
15 the image or images remain in the field of view generated by the camera for selectively
providing either one of a still picture of the object or video image of the object,
respectively, for providing a stable image in the presence of movement of a user's hand
holding said device.

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Claims 2-3 (Canceled).

Claim 4 (Previously presented): The method of claim 1 wherein the camera is
5 physically adjustable by a user.

Claim 5 (Canceled).

Claim 6 (Previously presented): The method of claim 1 wherein the camera has one or
10 more of solely electronically adjustable pan setting, an adjustable tilt setting, and an
adjustable zoom setting, performed without use of a motor.

Claims 7-9 (Canceled).

15 Claim 10 (Previously presented): The method of claim 1, wherein said step of
continuously electronically adjusting the camera is based at least in part on an output of
an orientation determination device integrated into or otherwise associated with the
hand-held device, for detecting relative movement between said device and an object of
interest caused by movement of a user's hand.

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Claim 11 (Original): The method of claim 10 wherein the orientation determination
device comprises one or more gyroscopes integrated into the hand-held device.

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Claim 12 (Previously presented): The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on an output of an image processing operation applied to an image generated by the camera.

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Claim 13 (Previously presented): The method of claim 1, wherein said step of continuously electronically adjusting the camera is based at least in part on a hybrid combination of an orientation determination operation and an image processing operation.

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Claim 14 (Previously presented): An apparatus for automatically framing and tracking an object of interest, the apparatus comprising:

a hand-held processing device including PDA's, mobile telephones, palmtops, and portable computers, having at least one video camera integrated therein, the hand-held device further comprising a processor operative to continuously monitor the detection of relative movement between the hand-held device and the object of interest, due to movement of a user's hand holding said device, said processor being responsive to the detected relative movement for adjusting continuously solely electronically adjusting, without use of a motor, at least one setting of the camera so as to continuously maintain a desired framing of the object of interest within an image generated by the camera as a user manipulates the device, for providing a stable image.

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Claim 15 (Previously presented): An article of manufacture comprising a storage medium for storing one or more programs for tracking an object of interest using at least one video camera having integrated into a hand-held processing device, including
5 PDA's, mobile telephones, palmtops, and portable computers, wherein the one or more programs when executed by a processor implement the steps of:

detecting relative movement between the hand-held device and the object of interest; and

adjusting solely electronically, without use of a motor, at least one setting of the
10 camera, in response to the detected relative movement, so as to maintain a desired framing of the object of interest within an image generated by the ~~camera~~ camera, for providing a stable image.